

# **Update: Drive Clean Program Emissions Benefit Analysis and Reporting – Heavy Duty Diesel Vehicles – 2008**

## **Introduction**

Smog is a serious health-related problem in Ontario. Motor vehicles are a major domestic source of smog in Ontario and a source of several other toxic contaminants. The Drive Clean program reduces smog-causing emissions by requiring on-road vehicles to undergo an emissions test to identify emissions problems, and have necessary repairs made before licence plate renewal or transferring ownership.

The Drive Clean program for heavy duty diesel vehicles includes all diesel-powered large trucks and buses registered in Ontario. The diesel engines in these vehicles are a major source of airborne microscopic particulate matter, a constituent of smog and an identified health risk.

A full report providing an analysis of Drive Clean heavy duty diesel vehicles emissions reductions to the end of 2005 (**Drive Clean Program Emissions Benefit Analysis and Reporting – Heavy Duty Vehicles – 2000 to 2005**) is posted on the Drive Clean website ([www.driveclean.com](http://www.driveclean.com)). The report was prepared by an independent consultant, G.W. Taylor Consulting. This update extends the 2005 results of the analysis to the end of 2008.

## **Key Findings:**

The latest Drive Clean analysis shows continued reductions in harmful heavy duty diesel vehicles emissions, particularly particulate matter. Numerous studies endorsed by medical authorities, including the Ontario Medical Association and Toronto Public Health, have linked particulate matter to aggravated cardiac and respiratory diseases such as asthma, bronchitis and emphysema and to various forms of heart disease.

In 2008, Drive Clean was responsible for reducing particulate matter emissions by 234 tonnes. During the nine year reporting period from 2000 to 2008, Drive Clean has reduced particulate matter emissions by an average of over 200 tonnes per year and a cumulative total of almost 2,250 tonnes.

In addition to particulate matter, diesel emissions include smog-forming compounds of hydrocarbons and nitrogen oxides. By reducing harmful vehicle emissions, Drive Clean helps to reduce smog and contributes to the government's goal of ensuring better health for Ontarians.

## Drive Clean Emissions Reductions:

For this update, the same model used previously to estimate emissions reductions related to the Drive Clean opacity (smoke) test was applied. Over the years, program improvements to the baseline MOBILE model (the computer model that is widely used in both the U.S. and Canada to calculate emissions), and to the approach used for allocating heavy duty diesel vehicles to weight classes, have increased the accuracy of the emissions reduction estimates.

Particulate matter reductions (tonnes) from 2000 to 2008 resulting from Drive Clean are shown in the following table:

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Particulate Matter*	259	252	245	226	205	287	283	253	234

*\* The 2005-07 figures for Particulate Matter have been recalculated by the consultant from the previous report in order to account for: two Drive Clean program changes; and a change in Environment Canada emissions inventory. The previous update emissions reductions estimates for particulate matter in 2005, 2006 and 2007 were 268, 187 and 254 tonnes respectively.*

For detailed information on the methodology used to calculate the emissions reductions in this update please see the report “**Drive Clean Program Emissions Benefit Analysis and Reporting – Heavy Duty Vehicles – 2000 to 2005**” by an independent consultant, G.W. Taylor Consulting, which is posted on the Drive Clean website ([www.driveclean.com](http://www.driveclean.com)).